IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Appln No.: 10/826,709

Confirmation No. 1774

Filed: April 16, 2004

Applicants: Gaonkar, et al.

Title: Multilayer Edible Moisture Barrier for Food Products

Art Unit: 1761

Examiner: Kuhns, Sarah Louise

CERTIFICATE OF FACSIMILE

I hereby certify that this paper is being faxed to Examiner Sarah Louise Kuhns, Group Art Unit 1761, at 571.273.8300 at the Commissioner for Patents, Alexandria, VA, on this date

1/9/06
Date

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DECLARATION UNDER 37 C.F.R. § 1.132

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir or Madam:

I, Jimbay P. Loh, pursuant to 37 C.F.R. §1.132, declares as follows:

1. I have read the claims in amendment filed on or about July 19, 2005 in this application.

2. These claims describe an edible moisture barrier with a flexible, hydrophobic barrier layer and a lipid layer having

from 1 to 35 weight percent of an edible microparticulated high melting lipid having a melting point of 70°C or higher and a volume average particle size of less than 10 microns;

from 65 weight percent of an edible low melting triglyceride blend having a melting point of 35°C or less;

at least 5 percent of the lipid particles having a particle size of not more than 0.1 microns;

3. The lipid layer which has the combination of a high melting point microparticulate lipid and low melting triglyceride uses the lipid particle size to stabilize the oil fraction of the triglyceride blend. This stabilization is important in that it permits the cooling of the product at very broad rates.

4. It is believed that the small lipid particles stabilize the fat, but at least in part because the lipids are high melting, they do not grow during a rapid cooling which growth would permit the liquid oil to destabilize from the barrier composition and drain from it. Further, the microparticulate high melting lipid promotes the formation of small fat crystals (from the tryglyceride blend during cooling) that also contribute to the immobilization of the remaining liquid oil during cooling.

5. In known fat/lipid systems liquid fat does not necessarily remain stable at low storage temperatures. For example, chocolate includes cocoa butter and looks stable at elevated temperatures. Yet, at lower storage temperatures, the fat in the cocoa butter will crystallize, fat particles grow and this growth results in larger fat particles which causes the blooming of the fat on the surface of the chocolate. The system has destabilized. In contrast, the solid fat content in the moisture barrier described in the claims remains stable at 5°C such that the solid fat content does not change more than 5 weight percent, fat crystals do not grow and cause a destabilization of the system.

6. We believe that evidence indicates there are considerable amount of small lipid particles in the system described in the claims and that these particles stabilize the lipid layer. For example, in our moisture barrier, we know the amount of high melting point lipid in the barrier composition and putting the material under a 10 power microscope shows us the amount of particulate matter we can see. Particles of less than about 0.3 microns can not be seen under such a microscope. The difference between the amount of particles we can see and the amount of solid lipid which is there (but can not be seen) permits us to conclude that smaller particles, such as 0.1 microns, are present and stabilize the moisture barrier system.

7. Known systems which have broad ranges of liquid fat and solid lipids at elevated temperatures do not inherently represent the moisture barrier described in this patent application. The correct amount of high melting lipid with the correct particle size has to be combined with the correct amount of liquid oil to provide the stable system.

8. I have reviewed at least two of the references which have been seen as rendering the moisture barrier of this patent application not patentable.

A. The Averbach patent (USPN 5,130,151) addresses a problem of cracking lipids in a moisture barrier. Averbach does not suggest the importance of particle size of the lipid wax and indeed uses very low amounts of lipid. In

my opinion the stabilization of the moisture barrier in the barrier described in this application would be new and unexpected over Averbach.

B. The Saur patent (USPN 5,520,942) Saur describes spraying an additive, such as a wax, in a fat or oil solvent, onto a food product where the result is a moisture barrier. Saur is the uses a supercritical fluid such as carbon dioxide as a carrier for oil or fat soluble flavorant, or for edible moisture barriers. Col. 2. While Saur describes particles which are 1-100 microns, there is not distinction between liquid or solid particles. See Column 4, ln 55 et seq of Saur. This distinction has extreme importance with the moisture barrier described in this patent application.

The undersigned, being warned that willful false statements and the like are punishable by fine or imprisonment, or both (18 U.S.C. §1001) and may jeopardize the validity of the application or any patent issuing thereon, hereby declares that the above statements made of my own knowledge are true and that all statements made on information and belief are believed to be true.

Date: 1/6/2006

Jimbay P. Loh